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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,303	09/08/2000	Laura Myers Haas	ARC9-2000-0125-US1	2864

7590 09/30/2004

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EXAMINER

MAHMOUDI, HASSAN

ART UNIT	PAPER NUMBER
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2175

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/658,303	Applicant(s) HAAS ET AL.	
	Examiner Tony Mahmoudi	Art Unit 2175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14 and 16-22 is/are rejected.
- 7) ☒ Claim(s) 6 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's Request for Continued Examination (RCE) submission filed on 07-July-2004 has been entered. In addition, the "After Final" amendment filed on 01-April-2004 has been entered for the continued examination of this application.

Remarks

2. In response to communications filed on 01-April-2004, claims 1-22 are presently pending in the application.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claim 9 is rejected under 35 U.S.C. 102(e) as being anticipated by Ripley (U.S. Publication No. 2002/0023097 A1.)

As to claim 9, Ripley teaches a computer-implemented method for generating a mapping from a source schema to a target schema (see Abstract), comprising:

generating a mapping based on at least a subset of value correspondences each value correspondence representing a function for deriving a value of a target attribute from one or more values of source attributes (see paragraphs 19, 24, and 80-81);

allowing a user, in a user interaction, to incrementally add or delete a value correspondence from the subset (see paragraphs 24 and 57);

based on the user interaction, generating a new mapping (see paragraphs 57 and 80);

presenting a representation of the new mapping to the user such that the user can view the representation (see paragraphs 19, 90, and 107); and

permitting the user to add or delete a value correspondence embodied in the new mapping to generate another mapping (see paragraphs 57, 80, and 85.)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 7-8, 10-14 and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ripley (U.S. Publication No. 2002/0023097 A1) in view of Morgenstern (U.S. Patent No. 5,970,490.)

As to claim 1, Ripley teaches a computer system (see Abstract), comprising:

a general purpose computer (see paragraph 23), the computer including logic for undertaking method (see paragraph 22, where “logic for undertaking method” is read on “software program”) acts to map data arranged in a source schema into a target schema (see figure 7D, and see paragraph 84), the method acts undertaken by the logic including:

receiving at least one value correspondence, each value correspondence representing a function for deriving a value of a target attribute from one or more values of source attributes (see paragraph 16);

grouping at least some value correspondences into potential sets (see paragraph 72, and see page 10, claim 5);

selecting candidate sets from at least some potential sets (see paragraphs 80-81);

grouping at least some candidate sets into covers (see paragraphs 73-76); and

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using at least one cover, representing a source schema-to-target schema mapping (see paragraph 23, and see paragraph 84.)

Ripley does not teach generating at least one query.

Morgenstern teaches an integration platform for heterogeneous databases (see Abstract), in which he teaches generating at least one query (see column 13, lines 39-45, and see column 28, lines 24-39.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Ripley to include generating at least one query.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Ripley by the teaching of Morgenstern, because generating at least one query would enable the system to identify the data to be moved from the source database to the target database.

As to claims 2 and 11, Ripley as modified teaches wherein the method acts undertaken by the logic to execute the grouping act include:

grouping value correspondences into potential sets such that, for each potential set, at most one value correspondence per target attribute exists (see Ripley, paragraphs 21 and 96.)

As to claims 3 and 12, Ripley as modified teaches wherein the method acts undertaken by the logic further include:

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adding a potential set to a set of candidate sets if only one source relation is used to compute mappings using the potential set (see Ripley, paragraph 46); otherwise adding a potential set to the set of candidate sets only if a join path for the source relations can be identified (see Ripley, paragraph 82.)

As to claims 4 and 13, Ripley as modified teaches wherein the method acts undertaken by the logic further include:

arranging candidate sets into groups (see Ripley, paragraph 72, and see page 10, claim 5) such that each group includes every value correspondence at least once, the groups establishing covers (see Ripley, paragraphs 73-76)

As to claims 5 and 14, Ripley as modified teaches wherein the method acts undertaken by the logic further include:

establishing at least one selected cover (see Ripley, paragraph 14);
for each candidate set in the selected cover, creating at least one query (see Morgenstern, column 13, lines 39-45, and see column 28, lines 24-39); and
combining the queries for the cover (see Morgenstern, column 28, lines 26-29.)

As to claims 7 and 16, Ripley as modified teaches wherein the logic undertakes the act of adding a potential set to the set of candidate sets only if a join path for the source relations can be identified using a spanning tree (see Ripley, paragraphs 46 and 82.)

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As to claim 8, Ripley as modified teaches wherein the logic incrementally undertakes the acts of grouping value correspondences into potential sets (see Ripley, paragraphs 21 and 96), selecting candidate sets (see Ripley, paragraph 14), grouping candidate sets into covers (see Ripley, paragraphs 73-76), and generating queries representing mappings (see Morgenstern, column 28, lines 26-29.)

As to claim 10, Ripley teaches wherein the generating act includes:
grouping at least some value correspondences into potential sets (see paragraph 72, and see page 10, claim 5);
selecting candidate sets from at least some potential sets (see paragraphs 80-81);
grouping at least some candidate sets into covers (see paragraphs 73-76); and
using at least one cover, representing a source schema-to-target schema mapping (see paragraph 23, and see paragraph 84.)

Ripley does not teach generating at least one query.

Morgenstern teaches an integration platform for heterogeneous databases (see Abstract), in which he teaches generating at least one query (see column 13, lines 39-45, and see column 28, lines 24-39.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Ripley to include generating at least one query.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Ripley by the teaching of Morgenstern, because

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generating at least one query would enable the system to identify the data to be moved from the source database to the target database.

As to claim 17, Ripley teaches computer program device (see Abstract, and see paragraph 22) comprising:

a computer program storage device readable by a digital processing apparatus (see paragraph 125); and

a program on the program storage device and including instructions executable by the digital processing apparatus (see paragraph 125, where “instructions” is read on “software”) for performing method acts for representing a source schema-to-target schema mapping, the program comprising (see paragraph 86):

computer readable code means (see paragraphs 22 and 124.)

For the remaining steps of this claim, the candidate is kindly directed to remarks and discussions made in claims 1 and 9 above.

Ripley does not teach generating a query.

Morgenstern teaches an integration platform for heterogeneous databases (see Abstract), in which he teaches generating a query (see column 13, lines 39-45, and see column 28, lines 24-39.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Ripley to include generating a query.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Ripley by the teaching of Morgenstern, because

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generating a query would enable the system to identify the data to be moved from the source database to the target database.

As to claim 18, Ripley as modified teaches the program product further comprising computer readable code means for sorting the subsets (see Ripley, paragraphs 55 and 74) and displaying at least portions of a sorted list of subsets (see Ripley, paragraphs 19, 90, and 107), such that a user can establish a selected subset used (see Ripley, paragraphs 57, 80, and 85) to generate the query (see Morgenstern, column 13, lines 39-45, and see column 28, lines 24-39.)

As to claim 19, Ripley as modified teaches wherein the means for generating subsets generates candidate sets (see Ripley, paragraph 68), each subset including one or more candidate sets and the means for sorting sorts the subsets by inverse number of candidate sets (see Ripley, paragraphs 55 and 74.)

As to claim 20, Ripley as modified teaches, wherein the means for sorting also sorts the subsets by the number of value correspondences in the subsets (see Ripley, paragraphs 55 and 74.)

As to claim 21, Ripley as modified teaches wherein the means for generating a query creates at least one query for each candidate set in the selected subset (see Morgenstern,

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column 13, lines 39-45), and then combines the queries for the subset (see Morgenstern, column 28, lines 26-29.)

As to claim 22, Ripley as modified teaches wherein the means for generating subsets and the means for generating a query (see Morgenstern, column 13, lines 39-45, and see column 28, lines 24-39) are incrementally invoked by a user to selectively add or delete value correspondences from a selected subset (see Ripley, paragraphs 24, 57, 80, and 85.)

Allowable Subject Matter

7. Claims 6 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record, Ripley (U.S. Publication No. 2002/0023097) and Morgenstern (U.S. Patent No. 5,970,490), do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim):

wherein the method acts undertaken by the logic to establish at least one selected cover include:

ranking the covers by at least one of: a number of candidate sets in each cover, and a number of target attributes; and

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presenting ranked covers to a user for selection of one of the covers as the selected cover,
as claimed in claim 6.

The prior art of record, Ripley (U.S. Publication No. 2002/0023097) and Morgenstern (U.S. Patent No. 5,970,490), do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim):

the method further comprising:

ranking the covers by at least one of: a number of candidate sets in each cover, and a number of target attributes; and

presenting ranked covers to a user for selection of one of the covers as the selected cover,
as claimed in claim 15.

Response to Arguments

9. Applicant's arguments filed on 01-April-2004 have been fully considered but they are not found to be persuasive:

Arguments made with regards to the Sworn Declaration:

In response to applicant's arguments regarding the "evidence now of record swearing behind Ripley", the arguments and remarks have been fully considered but are not deemed persuasive, because:

(a). According to the MPEP, "a general allegation that the invention was completed prior to the date of the reference is not sufficient". The affidavit or declaration and exhibits "must clearly explain which facts or data applicant is relying on to show completion of his or her

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invention prior to the particular date. Vague and general statements in broad terms about what the exhibits describe along with a general assertion that the exhibits describe a reduction to practice “amounts essentially to mere pleading, unsupported by proof or a showing of facts” and, thus, does not satisfy the requirements of 37 CFR 1.131(b).” (see MPEP, § 715.07, GENERAL REQUIREMENTS.)

In this case, the declaration filed on 01-April-2004, does not clearly show or explain all facts and limitations of the claimed invention. In *one* example, independent claim 9 recites: *“permitting the user to add or delete a value correspondence embodied in the new mapping to generate another mapping”*. There is no indication of the “user” to “add or delete” a value for a “new mapping” to “generate another mapping” in the filed declaration.

(b). In general, “proof of actual reduction to practice requires a showing that the apparatus actually existed and worked for its intended purpose” (see MPEP, § 715.07, THREE WAYS TO SHOW PRIOR INVENTION.) The declaration submitted by the applicant, only represent a statement regarding the general functional capabilities of the invention, but does not actually provide any evidence that the apparatus actually existed and worked for its intended purpose, at the stated time of reduction to practice. In the absence of the “dated, underlying code”, the examiner cannot establish, via the submitted declaration alone, that the invention “actually existed and worked for its intended purpose” at the time of the claimed reduction to practice.

In view of the above requirements set forth by the MPEP, the examiner is maintaining the validity of the references cited in the previous and the present Office Actions as appropriate “prior art” to the claims of the present invention.

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Argument made with regards to validity of the Provisional Application effective date:

In response to the applicant's argument that Ripley claims priority to an earlier-filed provisional application, and that "the earlier-filed provisional application has not been introduced into evidence nor has there been a sworn statement submitted that the examiner has verified that the relied-upon portions of Ripley in fact appear in the provisional application", the argument has been fully considered but it is not found persuasive, because as detailed in the MPEP, "the 35 U.S.C. 102(e) critical reference date of a U.S. patent or U.S. application publication and certain international application publications entitled to the benefit of the filing date of a provisional application under 35 U.S.C. 119(e) is the filing date of the provisional application." See MPEP, §2136.03, section III, PRIORITY FROM PROVISIONAL APPLICATION UNDER 35. U.S.C. 119(e). In considering the critical date of the prior art, the examiner is following the requirements of the MPEP, as they relate to considering these dates. In addition, at the present time there is no requirement in the MPEP in support of the above suggested analysis and determination requirements for provisional applications, regarding "a sworn statement submitted that the examiner has verified that the relied-upon portions of Ripley in fact appear in the provisional application".

A Notice of References Cited (PTO-892) is enclosed with this Office Action, listing the Provisional Application in discussion.

If a copy of a provisional application listed on the bottom portion of the accompanying Notice of References Cited (PTO-892) form is not included with this Office action and the PTO-892 has been annotated to indicate that the copy was not readily available, it is because the copy could not be readily obtained when the Office action was mailed. Should applicant

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desire a copy of such a provisional application, applicant should promptly request the copy from the Office of Public Records (OPR) in accordance with 37 CFR 1.14(a)(1)(iv), paying the required fee under 37 CFR 1.19(b)(1). If a copy is ordered from OPR, the shortened statutory period for reply to this Office action will not be reset under MPEP § 710.06 unless applicant can demonstrate a substantial delay by the Office in fulfilling the order for the copy of the provisional application. Where the applicant has been notified on the PTO-892 that a copy of the provisional application is not readily available, the provision of MPEP § 707.05(a) that a copy of the cited reference will be automatically furnished without charge does not apply.

In view of the above remarks, the examiner is maintaining the validity of the effective priority date for the Provisional Application.

Argument made with regards to the objection made to the specifications:

In response to the applicant's argument regarding the arrangement of the specification, that "Rule 77(b) is drafted in advisory form, not mandatory form", the applicant's remarks are noted. Accordingly, the objection made to the specifications in the office action dated 19-December-2003, regarding the boldfaced and underlined headings, is hereby withdrawn.

Argument made with regards to the cited references in view of the rejected claims:

In response to the applicant's arguments that Ripley does not teach or suggest "generating a mapping based on at least a subset of value correspondences, with each value correspondence representing a function for deriving a value of a target attribute from one or

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more values of source attributes”, the arguments have been fully considered but are not deemed persuasive, because Ripley teaches “applying the data from a source element or source child element to a matching target element or target child element” (see Abstract), and he teaches “the user may explicitly define at least one element match between at least one source element and at least one target element via a user definable mapping services facility (see paragraph 19). Also in paragraph 70, Ripley teaches “the use of aliases allows derivative data types to rename certain child elements”.

In response to the applicant’s arguments that “there is no evidence of record that the skilled artisan would regard mapping a database entry in one data structure directly into another data structure as taught by Ripley would be the same thing as ‘deriving’ an entry in a target schema from a source schema”, the arguments have been fully considered but are not deemed persuasive, because Ripley, in paragraph 106, indicates that “the data is applied ‘directly’ to the target element” only if “neither the active source element, nor the active target element, has children”. As stated by Ripley, in the case that “the source element has no children, but the target element does have children”, then “the data is ‘tokenized,’ or broken apart, and distributed among the child elements of the target using a Decomposition Algorithm. The Decomposition Algorithm may comprise any algorithm suitable for applying data tokens to child elements of a hierarchical data structure”. In this case, “deriving an entry in a target schema from a source schema” is read on “distribution among the child elements using a Decomposition Algorithm”.

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In response to the applicant's arguments that "more explanation is requested" for "paragraphs 73-76" teaching "grouping candidate sets into covers", paragraph 73 teaches a "hierarchical structure of the name". Paragraph 76 teaches re-specifying all elements in proper order". The applicant's "grouping candidate sets into covers" is read on "the hierarchical structure, where all elements are specified in proper order".

In response to the applicant's arguments that "more explanation is requested" for "paragraphs 23 and 84" teaching "using a cover to represent a mapping", paragraph 23 teaches "selecting a cover" (read on "means for receiving at least one source element from the first hierarchical data structure") to "represent a mapping" (read on "means for comparing a child of a source element to a child of a target element".)

Conclusion

10. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Tony Mahmoudi whose telephone number is (703) 305-4887. The examiner can normally be reached on Mondays-Fridays from 08:00 am to 04:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici, can be reached at (703) 305-3830.

tm

September 10, 2004


SAM RIMELL
PRIMARY EXAMINER